A CASE OF ANAPLASTIC THYROID CARCINOMA

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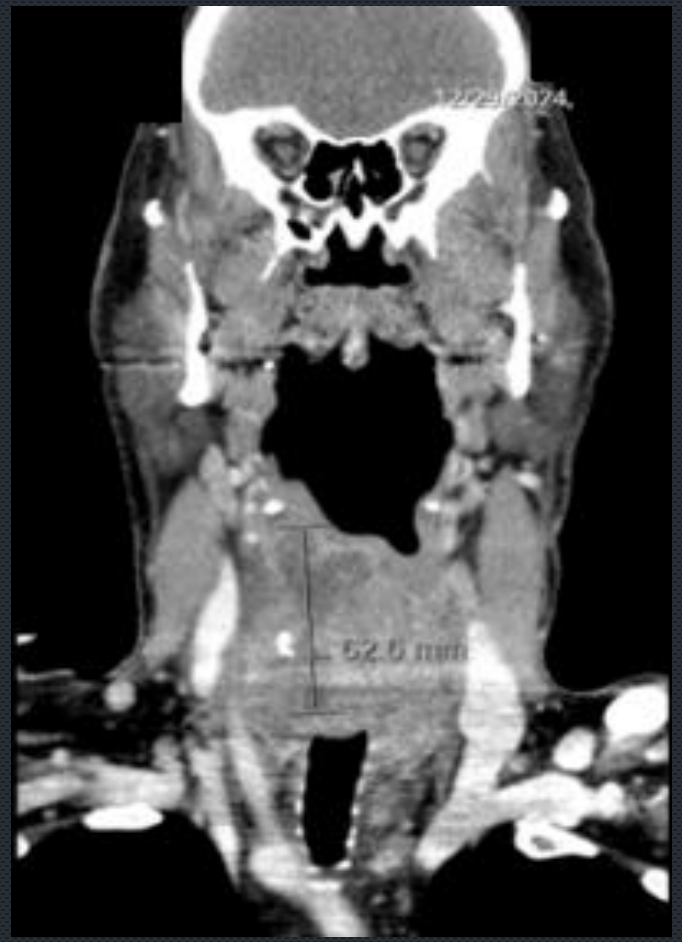
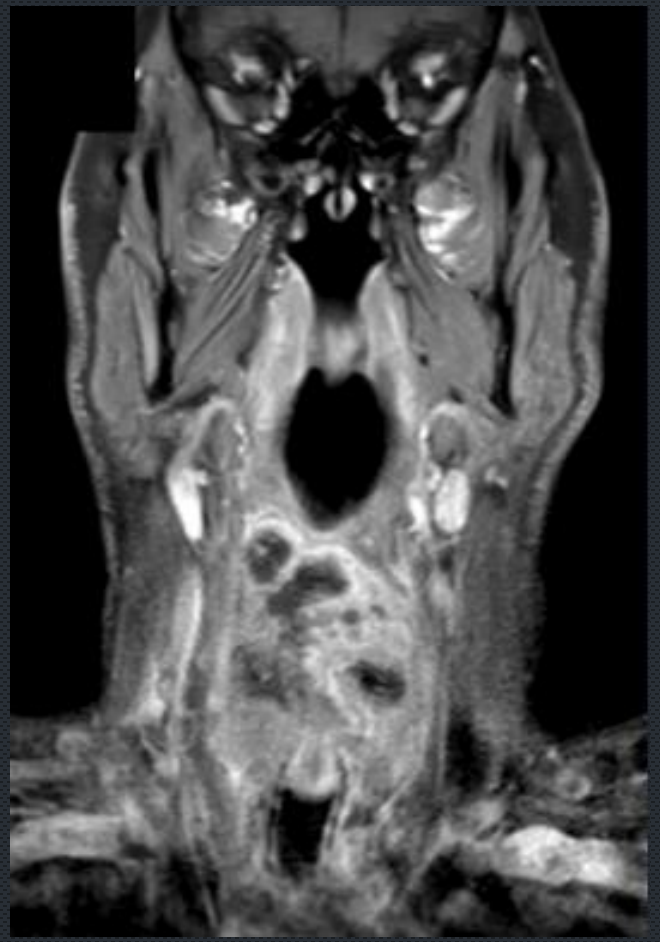
CLINICAL PRESENTATION

- 65-year-old man with hypertension and hypothyroidism presented to the ED for a rapidly enlarging neck mass, hoarseness and increasing dysphagia over two months.
- Physical exam: notable for a large anterior neck mass
- Labs: unremarkable, including TSH

IMAGING – CT

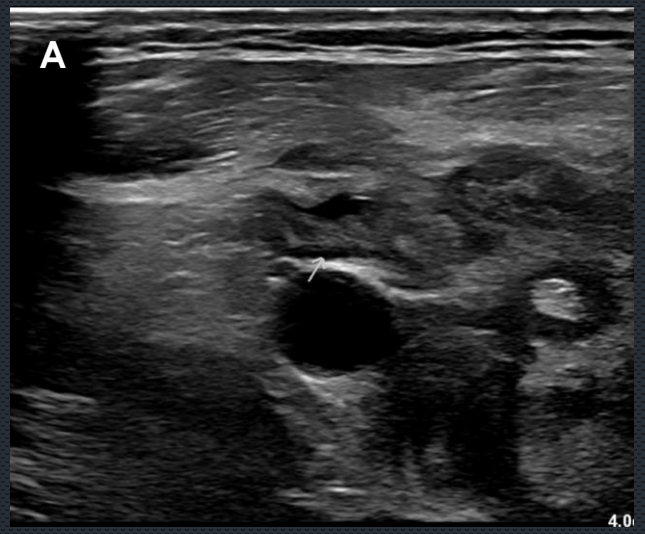
- Neck CT revealed a centrally necrotic, ill-defined mass measuring **3cm x 2cm x 6cm** in the right posterior thyroid cartilage extending to the adjacent right thyroid lobe and lymph nodes.
- Chest CT revealed numerous bilateral pulmonary nodules and prominent mediastinal and cervical lymph nodes.



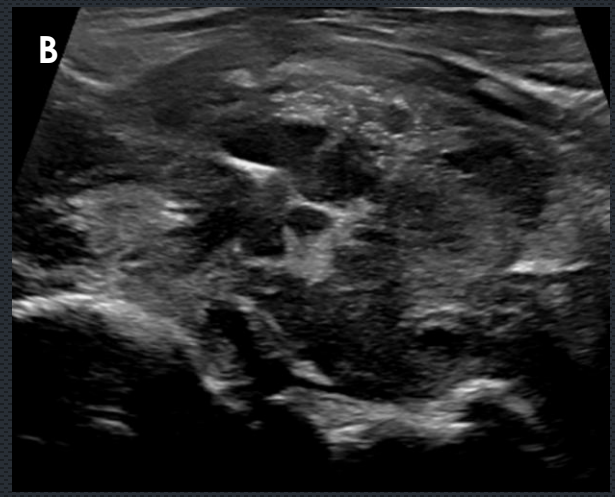


IMAGING – ULTRASOUND

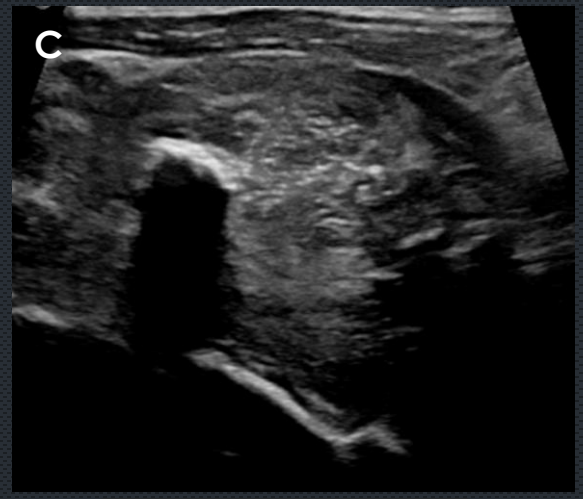
- THYROID ULTRASOUND WITH FINE NEEDLE ASPIRATION (FNA) SHOWED A LARGE HETEROGENEOUS MASS TAKING UP A LARGE PORTION OF THE RIGHT INTERNAL JUGULAR VEIN (FIG A) AND MOST OF THE RIGHT AND LEFT THYROID GLAND (FIG B &C) WITH MULTIPLE PUNCTATE CALCIFICATIONS AND ONE LARGE CALCIFICATION IN THE UPPER POLE OF THE RIGHT THYROID GLAND.
- FNA PATHOLOGY RESULTS SHOWED ATYPICAL CELLS CONSISTENT WITH ANAPLASTIC THYROID CARCINOMA (ATC).



Transverse Right Internal Jugular Vein



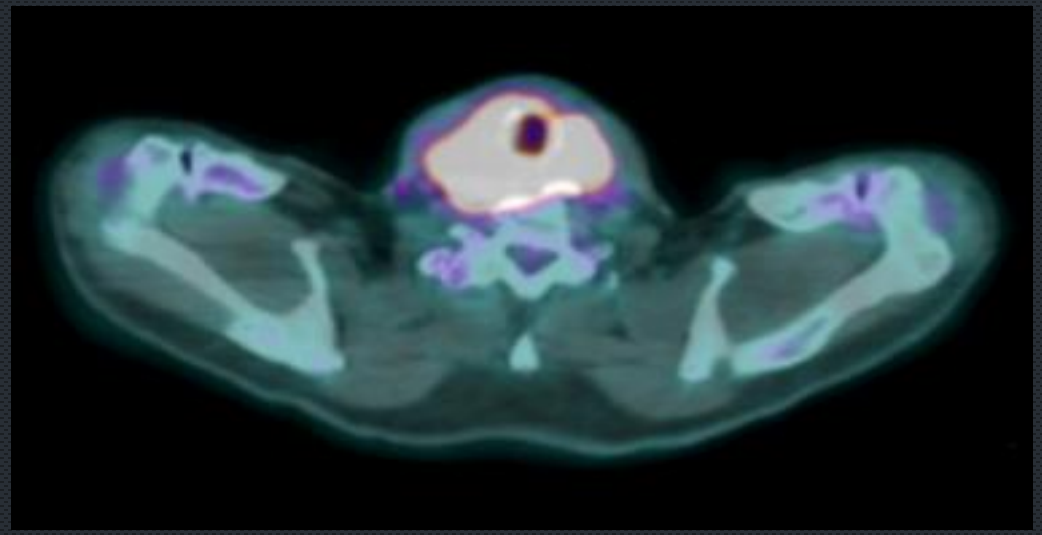
Sagittal Left Lateromedial Thyroid

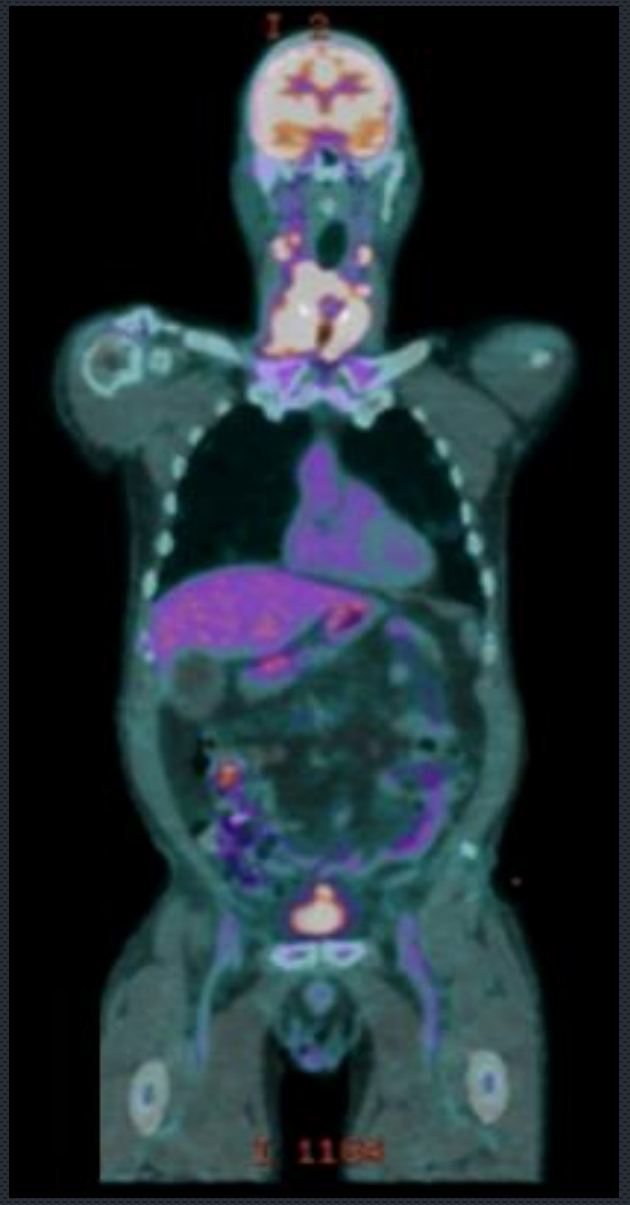


Sagittal Right Lateromedial Thyroid

IMAGING – PET/CT

- MRI AND TOTAL BODY PET/CT WERE PERFORMED FOR STAGING, REVEALING AN INFILTRATIVE MASS INVOLVING THE ENTIRE THYROID, PROXIMAL ESOPHAGUS, BILATERAL CAROTID SPACES, AND BILATERAL COMMON CAROTID ARTERIES AND CONFIRMING INVOLVEMENT OF ADJACENT LYMPH NODES WITH NUMEROUS BILATERAL PULMONARY METASTASES.





MANAGEMENT

- Oncology, with input from thoracic surgery and ENT, determined that the mass was unresectable due to size of the lesion, invasion of adjacent structures, and advanced metastases.
- Radiation therapy and adjuvant chemotherapy were initiated to reduce tumor burden and relieve the patient's symptoms

OUTCOME

- Despite undergoing 10 rounds of radiation and several months of chemotherapy, the patient was placed on home hospice 6 months after his diagnosis and passed away one week later.

TAKE HOME POINTS

- ATC is a rare, but rapidly progressive and locally aggressive malignancy with early metastasis that represents1-2% of thyroid cancers in the United States but is responsible for nearly 50% of all thyroid cancer-related deaths.
- Patients are typically over the age of 60 and present within weeks of experiencing dysphagia and an enlarging neck mass.
- Gold standard for diagnosis is ultrasound-guided FNA or core biopsy.
- Management includes total thyroidectomy with lymph node resection, adjuvant radiation therapy, and chemotherapy. Due to the high likelihood of distant metastases at the time of diagnosis, staging work-up is extensive, involving PET/CT of the whole body and MRI of the brain.
- Imaging also helps guide surgical management, with evidence of carotid encasement, such as in this case, making the tumor inoperable

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